Claims:-

1. An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT) capable of emitting fluorescence upon irradiation by incident light, wherein maximal absorbance of said incident light is in the range of 320 - 600 nm, and maximal fluorescence emission is in the range 300 - 700 nm.

2. The isolated polynucleotide molecule of claim 1, wherein the encoded pigment protein has a maximal absorbance of said incident light in the range of 550 - 580 nm, and a maximal fluorescence emission in the range 400 - 630 nm).

3. An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT), wherein said molecule comprises a nucleotide sequence encoding a protein having the N-terminal amino acid sequence:

   SVIAK (SEQ ID NO: 1).

4. An isolated polynucleotide molecule comprising a nucleotide sequence encoding a pigment protein from coral tissue (PPCT), wherein said molecule comprises a nucleotide sequence encoding a protein having the N-terminal amino acid sequence:

   SVIAKQMTYKVYMSGTV (SEQ ID NO: 2).

5. The isolated polynucleotide molecule of any one of the preceding claims, wherein the encoded protein includes a chromatophore region comprising the amino acid sequence: QYG.

6. The isolated polynucleotide molecule of any one of the preceding claims, wherein said molecule comprises a nucleotide sequence encoding a protein having an amino acid sequence corresponding to the sequence shown as SEQ ID NO: 3 or 4.

7. The isolated polynucleotide molecule of any one of the preceding claims, wherein said molecule comprises a nucleotide sequence which has at least 80% identity to the sequence shown as SEQ ID NO: 5 or 6.

8. The isolated polynucleotide molecule of claim 7, wherein said molecule comprises a nucleotide sequence which has at least 90% identity to the sequence shown as SEQ ID NO: 5 or 6.

9. The isolated polynucleotide molecule of claim 7, wherein said molecule comprises a nucleotide sequence which has at least 95% identity to the sequence shown as SEQ ID NO: 5 or 6.

10. The isolated polynucleotide molecule of any one of the preceding claims, wherein said molecule comprises a nucleotide sequence substantially corresponding to the sequence shown as SEQ ID NO: 5 or 6.

11. A protein comprising the N-terminal amino acid sequence:
SVIAK (SEQ ID NO: 1), said protein being in a substantially purified form.

12. A protein comprising the N-terminal amino acid sequence:
SVIAKQMTYKVYMSGTVN (SEQ ID NO: 2), said protein being in a substantially purified form.

13. The protein of claim 11 or 12, wherein said protein comprises an amino acid sequence corresponding to the sequence shown as SEQ ID NO: 3 or 4.

14. The protein of any one of claims 11 to 13, wherein said protein can be purified from coral tissue from a coral family selected from the group consisting of: Pocilloporidae, Acroporidae, Poritidae, Faviidae, Merulinidae and Fungiidae.

15. The protein of claim 14, wherein said protein can be purified from tissue of coral selected from the group consisting of: *Acropora aspera*,

Acropora digitifera, Acropora horrida, Acropora formosa, Montipora monasteriata, Montipora caliculata, Pocillopora damicornis, Porites murrayensis, Porites lobata, Plesiastrea versipora and *Seriatopora hystrix.*

16. The protein of claim 14, wherein said protein can be purified from tissue of coral selected from the group consisting of: *Acropora aspera, Acropora horrida, Montipora monasteriata, Montipora caliculata, Porites murrayensis, Porites lobata,* and *Plesiastrea versipora.*

17. A vector comprising a polynucleotide molecule according to any one of claims 1 to 10.

18. A host cell transfected or transformed with the vector of claim 17.

19. A process for producing the protein of any one of claims 11 to 16, wherein the process comprises the step of cultivating a host cell transfected or transformed with a vector according to claim 17 under conditions suitable for expression of the polynucleotide molecule encoding the protein, and optionally recovering the expressed protein.

20. The process of claim 19, wherein the step of cultivating a host cell is conducted at a temperature in the range of 30 - 37°C.

21. The process of claim 19, wherein the step of cultivating a host cell is conducted at a temperature of about 35°C.

22. An oligonucleotide probe or primer comprising a nucleotide sequence that hybridises selectively to a polynucleotide molecule according to any one of claims 1 to 10.

23. The oligonucleotide probe or primer of claim 22, wherein said probe or primer comprises at least 8 nucleotides.

24. The oligonucleotide probe or primer of claim 22, wherein said probe or primer comprises at least 18 nucleotides.

25. The oligonucleotide probe or primer of claim 22, wherein said probe or primer comprises at least 25 nucleotides.

26. The oligonucleotide probe or primer of any one of claims 22 to 25, wherein the oligonucleotide is conjugated to a detectable label.

27. Use of a protein according to any one of claims 11 to 16 as a tissue marker, fluorescent marker or general dyestuff.

28. A sunscreen formulation comprising an effective amount of a protein according to any one of claims 11 to 16, in admixture with a suitable pharmaceutical acceptable carrier or excipient.

29. A filter for screening UV or other wavelength(s) of incident light comprising an effective amount of a protein according to any one of claims 11 to 16.

30. The filter of claim 29, wherein the UV or other wavelength(s) of incident light is screened by absorption of the energy associated with said light by said protein and is then emitted at a longer wavelength than said incident light.

31. The filter of claim 30, wherein the absorbed energy of said incident light is emitted from said protein at a wavelength in the range of 400 to 550 nm.